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Assessment of Knowledge, Attitude and Practices Regarding Medication Abortion among Regular Undergraduate Female Students in College of Social Sciences Addis Ababa University, Ethiopia

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Abstract

Background: Abortion rates following unintended pregnancies is increasing in developing countries like Africa. Unsafe abortion is threatening the gains in reducing maternal mortality and achieving millennium development goal targets. Medication abortion is one of safe abortion interventions. Adequate level of knowledge among women of reproductive age groups contributes to prevention and control of unsafe abortion and the resulting mortality and morbidity. The aim of this study was therefore to assess knowledge, attitude and practices regarding medication abortion among regular undergraduate female students of the College of Social Sciences, Addis Ababa University.

Method: A cross-sectional quantitative study supplemented by key informants' interview was conducted between 1st of June to 5th of July 2013. The quantitative data were collected using structured, self-administered questionnaire and the qualitative data were collected by the principal investigator using interview guide.

Results: The age of the study participants ranged from 18 to 25 years with a mean age of 20.6 ± 1.5. Three-fourth of the respondents (159, 74.6%) knew what medication abortion meant where 11 (6.9%) and 97(61%) of them had high and low knowledge on medication abortion respectively. Majority (142, 66.7%) of the study participants would advise someone with unwanted pregnancy to undergo an abortion and 86 (40.4%) would consider abortion if they had unplanned pregnancy. From 21 respondents who had abortion experience, 13 (61.9%) used medication abortion.

Conclusion: The study revealed that majority of the female undergraduate students in Addis Ababa University has low knowledge regarding medical abortion, though most of them have positive attitude towards medication abortion.

Keywords: Unintended pregnancy; Abortion; Medication abortion; College of social sciences; Addis Ababa University; Undergraduate female student

Abbreviations: AACARHB: Addis Ababa City Administration Health Bureau; AAU: Addis Ababa University; AOR: Adjusted Odds Ratio; COC: Combined Oral Contraceptives; CORHA: Consortium of Reproductive Health Associations; COR: Crude Odds Ratio; CSSs: College of Social Sciences; EDHS: Ethiopia Demographic and Health Survey; ICESCR: International Covenant on Economic, Social, and Cultural Rights; ICPD: International Conference on Population and Development; MA: Medical Abortion; MDG: Millennium Development Goal ; MMRatio: Maternal Mortality Ratios; MVA: Manual Vacuum Aspiration; PI: Principal Investigator; SOP: School of Pharmacy; UNFPA: United Nations population Fund Agency; WHO: World Health Organization

Introduction

Unintended pregnancy poses a major challenge to reproductive health of young adults in developing countries and is higher among women who are unmarried and of lower economic status--factors that also leads to abortion [1]. Abortion is the premature expulsion from the uterus of the products of conception, which include the placenta, bag of waters, and fetus [2]. Abortions may be performed surgically, by dilation and curettage (D&C) or medically, by administration of medications such as Mifepristone (also known as RU486 or mifeprex) and Misoprostol [3].

As many as 67,000 women in the world die annually as a result of unsafe abortion and 48% of all abortions worldwide are deemed unsafe [4]. In 2008, 33 million (16%) of about 208 million pregnancies worldwide resulted in unintended births and 41 million (20%) in induced abortions [5]. Every day 192 women die because of complications arising from unsafe abortion due to different reasons and nearly all of them occur in developing countries [6]. Despite the magnitude of the problem of unsafe abortion, it is one of the most easily preventable causes of maternal death and ill health. Where abortion services are legal, safe, and accessible, complications of abortion are rare. In the United States, for example, where 22 percent of all pregnancies (excluding miscarriages) end in abortion, less than 0.3 percent of abortion patients experience a complication that requires hospitalization [7].

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The death of women due to abortion related causes is unacceptable, since most of the causes are preventable. Inadequate delivery systems, restrictive abortion laws, negative cultural and religious attitudes and poor health infrastructure for the treatment of abortion related complications are the main burdens of women's health that could be prevented [8]. More than 18 million young women give birth to a baby each year and 9 in 10 of them are in developing countries where about 30% women give birth to the first child before their 20th birthday. However, a large percentage of the unintended pregnancy results in unsafe abortion [9].

According to WHO, an estimated one-fifth of pregnancies, 42 million out of 210 million, each year are voluntarily aborted. Of these, 22 million occur within a formal health care system and 20 million outside of the legal system [7]. In Sub-Saharan Africa, 3.9% of maternal deaths are due to induced abortion arising from an estimated 19 million unsafe abortions performed annually. Africa accounts for 25% of all illegal abortions performed worldwide and less than 1% of all legal abortions [10]. In Ethiopia, despite the technological advancements in modern contraception methods, unintended pregnancy is still a big problem. More than 60% of the pregnancies in adolescents are unintended; ones which result from contraception non-use, contraception method failure and rape. The incidence of unintended pregnancy and unsafe abortion, particularly among adolescents, remains high. Abortion emanating from unintended pregnancy is one of the most significant causes of maternal morbidity and mortality; it is also a major medical and public health problem [11].

In Ethiopia, unsafe abortion accounts for nearly 60% of all gynecologic admissions and almost 30% of all obstetric and gynecologic admissions in Ethiopia [12]. Complications of unsafe abortion are a major public health issue facing women in developing countries [13]. Five million women are hospitalized each year for treatment of abortion related complications, such as hemorrhage and sepsis [14-16]. The introduction of MA has changed abortion practices dramatically in several countries. It consists of using drugs to terminate a pregnancy. Since the synthesis of prostaglandins in 1969, MA has provided an important alternative to surgical methods for elective termination of pregnancy [14].

Since the 2008 introduction of MA in Ethiopia, women's use of this method has increased rapidly: more than half of women who seek early termination of pregnancy services in public facilities now choose MA. And Ipas's own site monitoring data found that between July 2011 and June 2012, 67% of all safe abortion procedures at Ipas-supported facilities were with MA [16].

Young women in the university environment are away from home for the first time without parental supervision and become free to experiment sex. Coupled with their lack of, or poor knowledge of contraception, quite a few usually end up with unwanted pregnancies and are quite often faced with the predicament of dealing with the problem thereof [17]. Unintended pregnancy and early child bearing impacts negatively on the educational prospects of female students by forcing them to drop out of school (jeopardizing students' educational progress and future careers) because of the morbidity resulting from unsafe abortion when the pregnancy is unwanted [18]. University students are used for this sample because students often become agents of social change in society, and can serve as an indicator as to whether or not there will be a demand for MA. Educated population often creates markets for new medical technologies to be introduced to a population or sub-population [19]. In Ethiopia there was no study conducted on the assessment of knowledge, attitude and practice medical method of abortion. Therefore, the aim the present study is to assess knowledge, attitude and practices regarding medication abortion among female regular undergraduate students of the College of Social Sciences in Addis Ababa University, Ethiopia.

Methods

Study design, setting and period

A cross-sectional quantitative study was conducted in AAU from 1st of June to 5th of July, 2013.

Source and study population

The source and study populations were all regular undergraduate female students of College of Social Sciences.

Sampling procedure

According to the AAU registrar, since the number of female students in the College of Social Sciences were only 247 it became convenient and feasible to include all female students in the study.

Data collection and management

Eight trained data collectors were recruited and supervision and spot checking was made by the principal investigator during the data collection process and any inconsistencies were amended on time. For quantitative data collection a pretested, structured, self-administered questionnaire consisting of items with pre-coded response categories was used. In order to check the practicability of the proposed study, pretest of the data collection instrument (the questionnaires) was performed on 10% of the total sample (247) a week before the actual data collection process and important modification was made accordingly.

Data analysis and interpretation

After the data collection from sample population, the quantitative data was entered using SPSS version 16.0. The data was coded, entered, cleaned and data clean up was performed by running frequencies. Proportions, percentages, mean and standard deviation were used to describe quantitative data. Tables and graphs were used to present findings. Bar and pie graphs were created using Microsoft Excel sheet. Associations were conducted using odds ratio (OR). Logistic regression was employed to adjust for possible confounding variables. For the qualitative data manual analysis was used based on the recording and notes taken during the study time. Transcription, translation, coding of important phrases of the respondent own words; summary of data using summary sheet and categorizing of similar themes were done. Each right response to questions was given a score of 1; while a wrong response was scored 0. Respondents were categorized based on their overall knowledge scores.

Ethical considerations

Ethical approval was obtained from the Ethics Review Committee of the School of Pharmacy, AAU. Individual consent was obtained before the questionnaire was delivered to the participants. During the consent process, they were provided with information regarding the purpose of the study, why and how they were selected for this study and opportunity was given to ask questions if they had. Participants were also assured about confidentiality of the information obtained from them during the data collection by not using personal identifiers and analyzing the data in aggregates.

Results

A total of 222 female participated in the study. Nine filled questionnaires were discarded due to incompleteness resulting in a response rate of 86.23%.

Socio-demographic characteristics of the study participants

The age of the study participants ranged from 18 to 25 years with a mean age of 20.6 ± 1.5. The age groups 18-20 (51.2%) constituted the largest proportions of the study participants. Among the 213 respondents, about two-third 140 (65.7%) were from Addis Ababa City Administration. The majority of the study participants 143 (67.1%) were orthodox Christians. Only 7 (3.3%) of the study participants were married, while the majority which account 120 (56.3%) were single without relationship. Majority of the respondents, 131(61.5%) live outside the campus where most of them 117 (89.3%) live with their family (Table 1).

Socio-demographic background of parents of the study participants

Majority (197 (92.5%)) of the study participants has literate mother with different level of education (primary, secondary and college) and 73 (34.3%) mothers of the study participants were reported to be government employee (Table 2).

On the other hand only 9 (4.2%) of the fathers' of the study participants were reported to be illiterate, whereas more than two-third of them, 148 (69.5%), had some forms of college education. Regarding fathers' occupation, 96 (45.1%) was government employee. Forty six (21.6%) of the study participants parents reported to have medical related profession (Table 2).

Knowledge on abortion

When asked about the possible outcomes of pregnancy the majority of the respondents responded as giving birth 203(95.8%) and 74 (34.9%) said abortion (Table 3).

The entire study participants heard about abortion. The ways of performing abortion that the majority of respondents knew was: abortion by medication /drugs 167 (78.8%). Whereas, 10 (4.7%) of the respondents didn't have idea as to how pregnancy would be terminated (Table 3). The majority of the respondents 179 (82.6%) mentioned media (television, radio and newspaper) as the information source for abortion (Figure 1).

Knowledge and attitude towards country's Abortion Law

Nearly half of the respondents, 100 (46.9%), believe abortion is legally allowed in Ethiopia. Among those respondents who believe abortion is legally allowed in Ethiopia (n = 100), most of the respondents mentioned conditions as when the pregnancy is resulted from rape or incest 87 (87.0%). More than half of the study participants, 116 (54.5%) support government allowing abortion in this country (Table 4).

Among those who support that government should allow abortion (n = 116), the mentioned conditions under which abortion should be allowed were: to prevent unsafe abortion 72 (37.1%) and to prevent the death of women due to unsafe abortion 81 (41.8%). Among those who do not support (n = 97), the reasons given were: not allowed in my religion 58 (28.3%), it is crime 49 (23.9%), it encourages many women to have unplanned pregnancy 44 (21.5%) and it will risk the health of women 54 (26.3%) (Table 4).

Knowledge regarding medication abortion

From a total of 213 respondents 159 (74.6%) said they knew what MA means. Among the 159 respondents who claimed to know about MA, 112 (70.4%), 59 (37.1%), 31 (19.5%) and 2 (1.3%)) said a MA means;

Characteristics	Frequency	Percentage
Age distribution (n = 213)		
18-20	109	51.2
21-23	97	45.5
≥ 24	7	3.3
	Mean (SD)	20.6 (1.5)
	Range	18-25 (7)
Region they come from (n = 213)		
Dredawa city Administration	4	1.9
Oromiya	21	9.9
SNNPR	25	11.7
Tigray	5	2.3
Amhara	16	7.5
Addis Ababa city Administration	140	65.7
Benshangulgumuz	2	0.9
Religion (n = 213)		
Orthodox	143	67.1
Muslim	12	5.6
Catholic	6	2.8
Protestant	49	23
Others*	3	1.4
Department of study (n = 213)		
Archeology	12	5.6
Geography and environmental science	13	6.1
History	4	1.9
Philosophy	8	3.8
Political science and International	41	19.2
Social Anthropology	38	17.8
Sociology	53	24.9
Social Work	44	20.7
Year of study (n = 213)		
Year I	58	27.2
Year II	78	36.6
Year III	58	27.2
Year IV	19	8.9
Marital status (n = 213)		
Married	7	3.3
single without relationship	120	56.3
single with relationship	86	40.4
Place of residence (n = 213)		
In the campus Dormitory	82	38.5
Outside the campus	131	61.5
Outside the campus Living with (n = 131)		
With my family	117	89.3
With my relatives	5	3.8
With my husband	6	4.6
With my friends	1	0.8
Alone	2	1.5

* Appostolic, Lutheran,

Table 1: Socio-demographic characteristics of undergraduate female students, College of Social Sciences, AAU.

Characteristics	Frequency	Percentage
Mother Educational background (n = 213)		
Illiterate	**16**	**7.5**
Primary education	**41**	**19.2**
Secondary education	**44**	**20.7**
Above secondary school	**112**	**52.6**
Mother occupation (n = 213)		
Housewife	**67**	**31.5**
Government employee	**73**	**34.3**
Private employee	**7**	**3.3**
Merchant	**34**	**16**
Self business	**9**	**4.2**
Other*	**23**	**10.7**
Father Educational background (n = 213)		
Illiterate	**9**	**4.2**
Primary education	**26**	**12.2**
Secondary education	**30**	**14.1**
Above secondary school	**148**	**69.5**
Father occupation (n = 213)		
Government employee	**96**	**45.1**
Merchant	**58**	**27.2**
Retired	**20**	**9.4**
Self business	**18**	**8.4**
Others **	**21**	**9.9**
Medical related profession in family (n = 213)		
Yes	**46**	**21.6**

* Day laborer, Housemaid, Jobless and Retired, ** Day laborers, private employee and evangelic (pastor), farmer, dead

Table 2: Socio-demographic background of parents of undergraduate female students, College of Social Sciences, AAU.

Question	Frequency	Percentage
What is the possible outcome of pregnancy?		
Giving Birth	**203**	**95.8**
Abortion	**74**	**34.9**
Other*	**2**	**0.9**
Have you ever heard about abortion?		
Yes	**213**	**100**
Which ways of performing abortion do you know?		
Abortion by Surgical procedures	**118**	**55.7**
Abortion by medication / drugs	**167**	**78.8**
Abortion by traditional practitioners	**140**	**66**
I do not Know	**10**	**4.7**
Others **	**1**	**0.5**
Do you know what safe abortion means? (n = 213)		
Yes	**169**	**79.3**
Safe abortion means? When performed		
By qualified persons	**141**	**83.4**
By using correct techniques	**103**	**60.9**
In sanitary condition	**59**	**34.9**
By untrained persons	**6**	**3.6**
Do you know what unsafe abortion means? (n = 213)		
Yes	**194**	**91.1**
Unsafe Abortion Means? When performed		
By persons lacking the necessary skills	**156**	**80**
In an environment lacking minimal medical standards	**120**	**61.5**
By the woman herself	**93**	**47.7**
By health worker under unhygienic condition	**74**	**37.9**

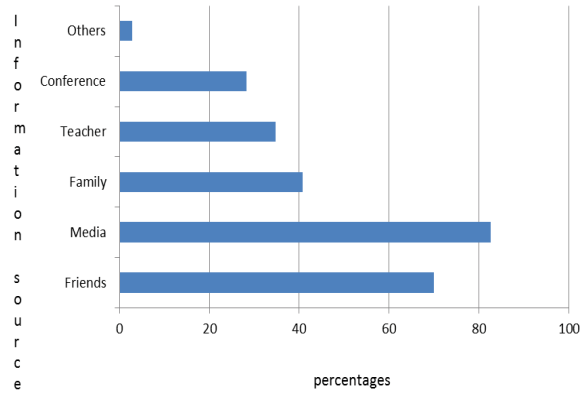
Others * miscarriage and maternal death: Others** by drinking high amount of alcohol.NB: For multiple responses the sum of the percentage may add up more than 100.

Table 3: Respondents knowledge regarding abortion, College of Social Sciences, AAU.

Question	Frequency	Percentage
Is abortion legally allowed in Ethiopia? (n = 213)		
Yes	**100**	**46.9**
No	**60**	**28.2**
I do not know	**53**	**24.9**
In what conditions abortion allowed in Ethiopia? (n = 100)		
When the pregnancy is resulted from rape or incest	**87**	**87**
When the woman or fetus lives are threatened	**69**	**69**
When the fetus has severe abnormalities	**53**	**53**
When the woman has physical or mental disabilities	**45**	**45**
When a woman is physically or psychologically unprepared to raise a child	**36**	**36**
On request for everyone	**7**	**7**
Do you support that government should allow abortion in this country? (n = 213)		
Yes	**116**	**54.5**
If you support government should allow abortion in this country, at what condition? (n = 116)		
To prevent unsafe abortion	**72**	**62.1**
To prevent the death of women due to unsafe abortion	**81**	**69.8**
It is human right	**41**	**35.3**
If you don't support government to allow abortion in this country, why? (n = 97)		
Not allowed in my religion	**58**	**59.8**
It is crime	**49**	**50.5**
It encourages many women to have unplanned pregnancy	**44**	**45.4**
It will risk the health of women	**54**	**55.7**

NB: For multiple responses the sum of the percentages may add up to more than 100.

Table 4: Knowledge and attitude towards country's abortion law, College of Social Sciences, AAU.



Others = Books, Films, discussions, church meetings and formal education

Figure 1: Abortion source of information by the study participants in College of Social Sciences, AAU.

Among those who knew what MA means, 117 (73.6%) also said they knew where someone could have medical abortion service. The majority of the respondents 141 (88.1%) did not know which drugs are used in case of MA but few of the respondents mentioned drugs. Most of the respondents 79 (49.7%) who claimed to know MA did not know the preferred gestational age to perform MA (Table 5).

As shown in Figure 2 out of 159 respondents who knew about MA, 88 (55.3%) said that they got the information from radio (Figure 3). Though the majority of the respondent know what MA means, when knowledge score was done based on the five question from the knowledge question it was found that most of the study participants have low knowledge towards MA 97 (61.0%) (Figure 4).

Attitude towards abortion

From the entire respondents, only 71 (33.3%) said that they would advise or encourage someone with unwanted pregnancy to undergo an abortion. The most preferred method was abortion by medication 43 (60.6%). Of all the respondents, 86 (40.4%) said that if they had unplanned pregnancy, they would consider abortion to terminate it and the reason given was: it will affect my education 69 (44.5%). Abortion by medication /drugs from health facility was the preferred way of abortion 59 (68.6%) (Table 6).

Sexual and medication abortion practice

Ninety three (43.7%) of the respondents had sexual intercourse experience. Of these, 24 (25.8%) had incidence of pregnancy and the majority 21 (87.5%) undergone abortion, while 3 (12.5%) gave birth. The type of abortion they used was: abortion by medication / drugs 13 (61.9%) (Table 7).

Determinants of knowledge and practice towards medication abortion

Socio-demographic variables associated with MA knowledge

In this study the possible predicting factors that could affect the knowledge of medication abortion were tested using binary logistic regression. The test included variables; age group, Religion, Department, Year of study, marital status, residence, Mother Education, Father Education, Parents' profession. None of the variables showed statistical significant association

Parents related factors associated with knowledge about MA

Students' Mother and father educational status and family profession were used and analyzed if there were association with their

Question	Frequency	Percentage
Do you know what a medication abortion means? (n = 213)		
Yes	**159**	**74.6**
Medication Abortion means? (n = 159)		
Abortion using abortion pill / drug	**112**	**70.4**
Abortion using any drugs / medication	**59**	**37.1**
Abortion by inserting objects through female genital	**31**	**19.5**
Abortion by drinking chemicals	**2**	**1.3**
Do you know where someone can have medical abortion done? (n = 159)		
Yes	**117**	**73.6**
Which drug / drugs is / are used to abort pregnancy? (n = 159)		
Misoprostol	**3**	**1.9**
Mifeprostol	**2**	**1.3**
Amoxicillin	**7**	**4.5**
Ampicilline	**2**	**1.3**
Methotrixate	**2**	**1.3**
Safe-T	**3**	**1.9**
I do not know	**141**	**88.9**
At what gestational age medication abortion is preferable? (n = 159)		
Gestational age less than or equal 9 weeks	**68**	**42.8**
Gestational age greater than or equal 9 weeks	**17**	**10.7**
At any gestational age	**4**	**2.5**
I do not know	**79**	**49.7**

NB: For multiple responses the sum of the percentages may add up to more than 100.

Table 5: Knowledge regarding medication abortion, College of Social Sciences, AAU.

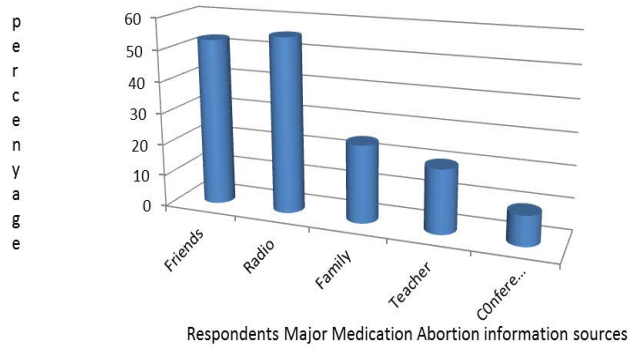


Figure 2: Major source of information regarding medication abortion, College of Social Sciences, AAU.

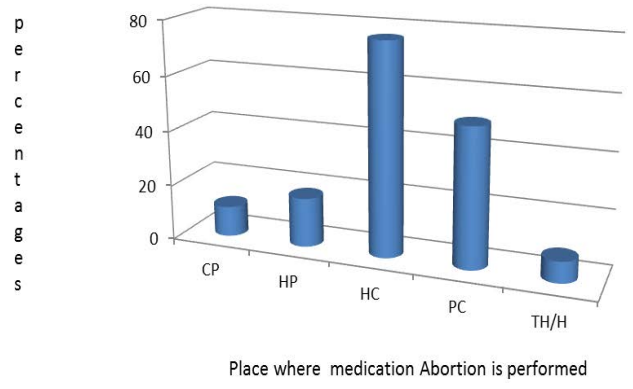


Figure 3: Institutions where medication abortion is performed, College of Social Sciences, AAU.

knowledge about MA. As shown in Table 8 students with father who are illiterate had low knowledge regarding MA compared to students having father's who are educated (AOR = 0.112 [0.013-0.969]) and it showed statistically significant association. Though mother educational status (illiterate) shows statistical significance at crude odds ratio, upon adjustment for, age group, Religion, Department, Year of study, marital status, residence, Mother Education, Father Education, Parent medical profession the effect of mother's educational status (illiterate) was not found to be statistically significant (OR = 0.258 [0.088-0.762]) (Table 8).

Socio-demographic variables associated to medication abortion practice

Socio-demographic variables of students were analyzed if there were association with their MA practice. By applying binary logistic regression the following variables showed statistical association with practice of MA.

Among students' socio-demographic characteristics, residence of the study participants was identified as major determinant (predictor) of MA practice in this particular study. When we compare MA practice among participants who live in the campus and outside the campus those students who live in the campus (AOR = 0.081 [0.009-0.708]) had lower MA practice than those living outside the campus (Table 9).

Parental factors associated with medication abortion practice

Mothers' and fathers' educational status and family profession was used and analyzed if they were predictors of MA practice. Father educational status (1^0 education) showed statistical significance association (AOR = 6.803 [1.054-43.897]) (Table 10).

Discussion

Consideration of varying sets of covariates and their varying measurement scales in the data analysis and variations in methods of

Question	Frequency	Percentage
Would you advise or encourage a colleague with an unwanted pregnancy to undergo an abortion? (n = 213)		
Yes	**71**	**33.3**
Which type of abortion would you advise or encourage a colleague with an unwanted pregnancy to undergo an abortion? (n = 71)		
Abortion by Surgical procedures	**27**	**38**
Abortion by medication /drugs	**43**	**60.6**
Abortion by traditional practitioners	**1**	**1.4**
If you have unplanned pregnancy will you consider abortion to terminate? (n = 213)		
Yes	**86**	**40.4**
Why would you consider abortion if you have unplanned pregnancy? (n = 86)		
I cannot raise the child	**52**	**60.5**
It will affect my education	**69**	**80.2**
To protect social stigma	**34**	**39.5**
Which type of abortion would you consider if you have unplanned pregnancy? (n = 86)		
Abortion by Surgical procedures in the health facility	**24**	**27.9**
Abortion by medication / drugs from health facility	**59**	**68.6**
Abortion by medication / drugs from friends	**3**	**3.5**
Why won't you consider abortion if you have unplanned pregnancy?		
My religion cannot allow abortion	**83**	**65.4**
It is crime in our country	**47**	**37**
I don't want to kill my own baby	**107**	**84.3**

NB: For multiple responses the sum of the percentages may add up to more than 100.

Table 6: Attitude towards abortion, College of Social Sciences, AAU.

Question	Frequency	Percentage
Have you ever had sexual intercourse before? (n = 213)		
Yes	93	43.7
If you had sexual intercourse before was there incidence of pregnancy? (n = 93)		
Yes	24	25.8
If there was incidence of pregnancy, what action did you take? (n = 24)		
Gave birth	3	12.5
Undergone abortion	21	87.5
If you had undergone abortion; which type of abortion did you use?		
Abortion by Surgical procedures	7	33.3
Abortion by medication	13	61.9
Abortion by traditional practitioners	1	4.8
Reason given for MA preference (n = 13)		
It is safe	7	53.8
It is easy to take	6	46.2
It is more natural	2	15.4
Avoids surgery and anesthesia	4	30.8
More effective	4	30.8
Increased privacy and confidentiality	3	23.1
Others	5	38.5

Others* = it doesn't have side effect, much quicker
NB: For multiple responses the sum of the percentages may add up to more than 100.

Table 7: Sexual and abortion related practice, College of Social Science, AAU.

Variables		Yes (%)	No (%)	OR (95% CI)	AOR (95% CI)
Mother Educational status	Illiterate	8 (5.0)	8 (14.8)	0.258 [0.088-.762]*	0.269 [0.056-1.291]
	1º Education	30 (18.9)	11 (20.4)	0.705 [0.308-1.615]	0.734 [0.222-2.424]
	2º Education	32 (20.1)	12 (22.2)	0.689 [0.308-1.544]	0.821 [0.292-2.309]
	Above 2º Education	89 (56.0)	23 (42.6)	1	1
Father Educational status	Illiterate	2 (1.3)	7 (13.0)	0.088 [0.018-.446]*	0.112 [0.013-0.969]*
	1º Education	22 (13.8)	4 (7.4)	1.704 [0.550-5.278]	1.942 [0.458-8.238]
	2º Education	22 (13.8)	8 (14.8)	0.852 [0.349-2.082]	0.695 [0.217-2.226]
	Above 2º Education	113 (71.1)	35 (64.8)	1	1
Medical professional in the family	Yes	34 (21.4)	12 (22.2)	1.050[0.499-2.213]	1.663 [0.653-4.236]
	No	125 (78.6)	42 (77.8)	1	1

Note: * = Statistically significant.

Table 8: Parental background characteristics influencing the MA knowledge of regular undergraduate female students of College of Social Sciences in AAU.

Variables		Yes (%)	OR (95% CI)	AOR (95% CI)
Age group	18-20	9 (69.2)	1	1
	21-23	4 (30.8)	0.478 [0.142-1.604]	0.208 [0.040-1.090]
Year of study	I	4 (30.8)	1	1
	II	5 (38.5)	0.925 [0.237-3.606]	1.160 [0.203-6.640]
	III	3 (23.1)	0.736 [0.157-3.446]	0.955 [0.135-6.743]
	IV	1 (7.7)	0.750 [0.079-7.154]	1.505 [0.089-25.526]
Marital status	Single (without R/ship)	8 (61.5)	1.157 [0.365-3.667]	1.443 [0.377-5.522]
	Single (In R/ship)	5 (38.5)	1	1
Residence	Campus	1 (7.7)	0.122 [0.016-0.960] *	0. 081 [0.009-0.708] *
	Outside campus	12 (92.3)	1	1
Knowledge on MA	Low Knowledge	9 (69.2)	1	1
	Satisfactory knowledge	2 (15.4)	0.399 [0.083-1.921]	0.411 [0.072-2.359]
	High Knowledge	1 (7.7)	0.978 [0.112-8.538]	0.723 [0.070-7.445]

Note: * = Statistically significant.

Table 9: Predictors of medication abortion practice of regular undergraduate female students of College of Social Sciences in AAU.

Variables		Yes (%)	OR (95% CI)	AOR (95% CI)
Mother Educational status (n=13)	1º Education	5 (38.5)	2.083 [0.622-6.976]	0.741 [0.116-4.730]
	2º Education	1 (7.7)	0.349 [0.042-2.921]	0.251 [0.023-2.694]
	Above 2º Education	7 (53.8)	1	1
Father Educational status	1º Education	5 (38.5)	4.796 [1.394-16.504]	6.803 [1.054-43.897] *
	2º Education	1 (7.7)	0.695 [0.082-5.863]	1.268 [0.114-14.134]
	Above 2º Education	7 (53.8)	1	1
Medical professional in the family	Yes	4 (30.8)	0.598 [0.176-2.038]	0.578 [0.159-2.099]
	No	9 (69.2)	1	1

Note: * = Statistically significant.

Table 10: Predictors of family socio-demographic variables to medication abortion practice of regular undergraduate female students of College of Social Science in AAU.

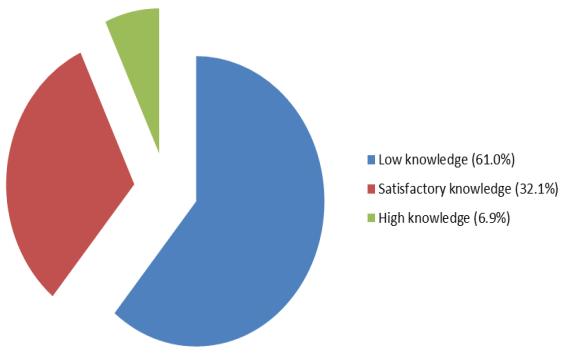


Figure 4: Knowledge score on medication abortion, College of Social Sciences, AAU.

data analysis do not allow for straight forward comparison of result between the different studies. Assessment on knowledge, attitude and practice regarding MA among regular undergraduate female students of the College of Social Science in Addis Ababa University was done and there was lack of similar studies, even, in other countries. In view of these limitations, the findings of this particular research discussed as follows.

The age of the study participants ranged from 18 to 25 in which the likes of peer pressure, being active for sexual intercourse and of course making an autonomous decision begins. Most of the students' parents have some forms of college education which may affects students knowledge towards MA and it was found that students having father educational background with some forms of college education have higher knowledge of MA than those having illiterate father (AOR

= 0.112 [0.013-0.969]) and shows statistically significant association. This is may be due to the fact that parents having higher educational background let their children know additional and important lesson beside the academic program. Forty six (21.6%) of the study participants' parents have medical related profession which will affect students knowledge towards MA. And though it is not significant in this study, students having family with medical profession history have higher knowledge towards MA (AOR = 1.663 [0.653-4.236]).

The entire study participant 213 (100%) have heard about abortion. This could be in part due to the seminars given on reproductive health issues by the stakeholders as witnessed by the key informants in the students counsel, girls club, female students association and student clinic from the College of Social Sciences campus. Media (82.6%) (Radio, television, news paper, internet and the like) was the main source of information about abortion followed by friends (70.0%). This is may be due to the fact that media plays a great role in prevention of disease and disability in promoting health behavior and providing information on different health issues nowadays.

Though most of the students know what safe and unsafe abortion means which was also may be attributed to the contribution of seminar given on reproductive health when freshman students come, according to key informants, significant amount of the study participants do not know what safe abortion means. About 40% of the study participants said abortion is liberal and allowed in Ethiopia under some conditions, but 60 (28.2%) said abortion is not legally allowed in Ethiopia, and 53 (24.9%) said they don't know whether it is allowed or not. Among those respondents who said abortion is legally allowed in Ethiopia (n = 100), most of the respondents mentioned that abortion is allowed only for the conditions like; when the pregnancy is resulted from rape or incest (87 (87.0%)), when the woman or fetus lives are threatened 69 (69.0%)) and some of the study participants (7 (7%) responded on request for everyone. Study done in Ghana showed that only 16.5% of all respondents would attempt to outline the abortion law. Less than one third of these respondents simply stated that abortion is a criminal offence. However, about 14% of the students interviewed knew that abortions are legal in Ghana under certain conditions. The most commonly mentioned condition for which an abortion could be performed legally was, "if the pregnancy could cause risk to the physical health of the mother" [20]. Though there is a lot to be done on awareness about the abortion law of the country, the current result showed the effect of awareness creation by the student based association in the campus, since according to the key informant from the respective association they provide awareness creation on reproductive health issues including abortion. Their awareness was may be in part due to the seminar given by the student clinic as witnessed by the key informants.

About three-fourth of respondents 159 (74.6%) knew what MA means, but 54 (25.4%) of them do not know about MA. Among the 159 respondents who claimed to know about MA, 112 (54.9%), 59 (28.9%) said MA means; Abortion using abortion pill / drug, Abortion using any drugs / medication respectively. And the majority of the respondents got the information from radio (88 (55.3%)) and friends (84 (52.8%)). When the knowledge score was done 32.1% of the respondents who knows MA has satisfactory knowledge and the majority of them have low knowledge towards MA. A study done in Brazil on medication abortion knowledge among medical students showed that the percentage of the students who had heard about misoprostol as a means to induce abortion was 72% though only less than 3% had satisfactory general knowledge [21]. The different in the result may be due to the difference in the sample size used since the later used higher sample size from three different universities and also the specific knowledge questions used were different. And the effect of student based organization mentioned above in this study might have contributed for the higher knowledge score.

This study showed that among those who knew what MA means, 117 (73.6%) also said they knew where someone can have medical abortion service. The majority of the respondents 141 (88.1%) do not know which drugs are used in case of MA but few of the respondents those claimed to know MA responded as Misoprostol 3 (1.9%), Mifiprostol 2 (1.2%), Amoxicillin 7 (4.4%), Ampicillin 2 (1.2%), Methotrexate 2 (1.2%), and Safe-T 3 (1.9%). A study done in Ghana on the resolution of unintended pregnancy among female students at university of Ghana on 480 students when asked about their knowledge on the type of drug used only 8.75% of female students had ever heard about Misoprostol. Six percent of the students knew it was a tablet to terminate pregnancy [20]. Though it is not strictly comparable due to difference in participant, method, objective and specific question the knowledge on mifiprostol in this study is small (1.2%) may be due to smaller study participant. And a study done on knowledge and practices among medical abortion seekers in southeastern Nigeria in 100 consecutive abortion seekers from which fifty-five percent of respondents were students where 33% had a tertiary education level 48% had used drugs for pregnancy terminations. Three percent and 2% of subjects had knowledge of misoprostol and mifiprostol, respectively. One percent of respondents had used misoprostol [22]. The difference in knowledge of the type of drug used for MA from the current study and this is may be due to difference in small sample and difference in participants.

Some study participants mentioned amoxicillin 7 (4.4%) and ampicillin 2 (1.2%) as the type of drug used to perform MA. From my anecdotal observation people, with unintended pregnancy, sometimes go to private pharmacy and ask for a strip (ten capsules) of "ampicillin" or "amoxacillin" to undergo unsafe abortion. Methotrexate is not indicated as option for MA in our country but a couple of respondents answered may be they have family or friend abroad who can send the drug for them or for their friend or family or they may read from books or internet sources. But those answered safe-T answered the correct medication name, since it is the brand name for the currently available MA pill that contains misoprostol and mifiprostol in our country.

Information about MA is not openly and publicly available but that it rather flows through hidden informal or "underground" channels. Female relatives, friends, neighbors and the sexual partner, are the ones who provide information or help to identify sources of information such as women who had abortions in the past or who have been close to women in a similar situation, women's health organizations, health professionals, pharmacies and Internet sites [23]. In this study most of the study participants mentioned health center and private clinic where MA by using abortion pill is performed. According to El-Adas [20], of the 42 students, 33 knew a pharmacy and 4 knew a hospital where they could obtain Misoprostol to perform abortion. According to Adnima et al. [22], thirty-three percent of subjects purchased their abortion drugs in a pharmacy. The difference in this study may be due to the fact that the abortion pill is not provided in the public or private pharmacy in our country and it is only available in government health facilities and private clinics.

One third of the respondents 71 (33.3%) has positive attitude towards abortion by advising or encouraging colleague with an unwanted pregnancy to undergo an abortion where most of them would advise or encourage abortion by medication / drugs 43 (60.6%). But the majority of them 142 (66.7%) have negative attitude towards

abortion and they don't advise or encourage abortion. According to a study done in Uganda on Knowledge and attitudes about induced abortions among female youth, 16% of the participants would advise or encourage a colleague to go for an abortion but 84% of them would not [24]. The difference on the attitude may be due to the difference in the socio-demographic composition of the study participants.

Of all the respondents, 86 (40.4%) of them will consider abortion to terminate if they have unplanned pregnancy, and most of the reasons given were: it will affect my education 69 (44.5%) and abortion by medication /drugs from health facility 59 (68.6%) was the preferred type of abortion. According to Paluku et al. [24], 14.7% participants would consider undergoing an abortion if they became pregnant. Though significant amount of the study participants have positive attitude towards abortion where some will advise colleague and some may use for them in case of unintended pregnancy that may arise due to rape or other reason, the student clinic does not provide abortion and post abortion service (Key informants). Even if most of the key informants want the service to be available, the clinic does not provide abortion service rather it only provides oral and inject able birth control methods including emergency contraceptives. Even though ICESCR entitles women to available, accessible, and acceptable reproductive health care, including abortion care [25], female students in the AAU in College of Social Sciences campus are not provided with abortion and post abortion care service even if the student clinic has the potential to provide the service (key informant from student clinic).

Ninety three (43.7%) of the respondents had sexual intercourse experience which is higher than a study done by El-Adas [20] where about 38% of all students interviewed had ever had sex. Where 24 (25.8%) had incidence of pregnancy in which the majority 21 (87.5%) of them undergone abortion. The majority of the study participants had used abortion by medication / drugs 13 (61.9%) during abortion which is almost comparable with the study done by Woldetsadik et al. [12], where 67.3% of women chose medical abortion. Being safe, easy to take, avoids surgery and anesthesia, increased privacy and confidentiality and it is more natural was the major given reason for MA preference from those study participants who have abortion experience in the current study where the same reason was mentioned for the preference of MA by the study participants from Woldetsadik et al. [12].

In the present study possible determinants of MA knowledge and practice were tested using univariate as well as multivariate analyses through binary logistic regression and father educational status was found to be major determinant of MA knowledge. And student's socio-demographic characteristics of the study participants; residence and father educational status were found to be major determinant (predictor) of MA practice in this particular study and showed statistical significant association with practice of MA.

Conclusion and Recommendation

Though 100% of the study participants in the CSS heard what abortion is, only 74.6% knows what MA and their major source of information were radio and friend. Majority of the respondents were found to have low knowledge score on MA. Medication abortion is acceptable by the study participants where one third of the respondents have positive attitude towards abortion by advising or encouraging colleague with an unwanted pregnancy to undergo an abortion where most of them would advise or encourage abortion by medication / drugs (Medical Abortion). Of all the respondents, 86 (40.4%) will consider abortion to terminate if they have unplanned pregnancy. Father educational status was found to have significant association with MA knowledge of the study participants. Residence of the study participants and father educational status were identified as major determinant (predictor) of MA practice in this particular study.

Based on the results of the study the following recommendations can be forwarded:

- It would be much beneficial to female students and the public on the safe abortion method including MA giving emphasis on the promotion of birth control by AAU in collaboration with DKT-Ethiopia, Ipas-Ethiopia, AACARHB and local mass media.
- The student clinic should consider giving abortion service to prevent female students from going to unsafe abortion practitioners.
- Similar studies should be conducted in different parts of the country so as to get a national picture on the medication abortion knowledge, attitude and practice.

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